

ZBEGAN, V.; JURA, C.; GIURCONIU, M.; NICOARA, Tr.; CRETU, Gh.; MIREL, I.;
MEDLEANU, V.; SCHMIDT, M.; COSTIN, Elena

Study of the treating of surface waters for obtaining drinking
water in the semi-industrial laboratory. Bul St si Tehn Tim 9
no.2:617-624 J1-D '64.

RUMANIA/Cultivated Plants. Cereals.

M

Abs Jour: Ref Zhur-Biol., No 17, 1958, 77623.

Author : Jurn, Emil; Luca, I.

Inst : Institute of Agronomy, Timisoara.

Title : Increase of Harvest Yield of Corn by Means of
Different Treatment of the Seeds.

Orig Pub: Anuarul lucrar. stiint. Inst. agron. Timisoara, Bucuresti,
1957, 123-131.

Abstract: Tests were conducted in 1953-1955 on the Chala farm west of Arad on dark-colored alluvial clayey and alluvial sandy soils with the Fister variety. Studied were: effect of heating the seeds in the sun before sowing (variant 2), sowing with swollen and then dried out seeds (variant 3), sowing with wet seeds (variant 4) and with seeds without treat-

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JURA, J.

The 250th anniversary of the Czech Institute of Technology. p. 81.

(Textil. Vol. 12, no. 3, Mar. 1957. Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 10, October 1957. Uncl.

JURA, Stanislav, inz.

Driving equipment and brakes of electromechanical start-stop systems. Strojcas 15 no. 3: 270-291 '64.

1. Research Institute of Mathematical Machines, Prague.

S/194/62/000/011/006/062
D201/D308

AUTHOR: Jura, Stanislav

TITLE: A fast tape perforator

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika,
no. 11, 1962, 39, abstract 11-1-77sh (Czech. pat.,
cl. 43a, 41/01, no. 99567, May 15, 1961)

TEXT: An electromechanical arrangement for fast perforation of
tape is proposed. It consists of a rocking combination of a die and
a punch: the punch can be braked in its upward movement by an ex-
ternal electromagnetic drive mechanism, and then the tape is perfo-
rated on passing through a slot in the die. During the next down-
ward movement the punch is released. The arrangement includes a
tape step-pulling electromechanical mechanism. *[Abstracter's note:
Complete translation.]*

Card 1/1

8/194/62/000/012/006/101
B201/D308

AUTHOR: Jura, Stanislav

TITLE: Direction-of-rotation indicator

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika,
no. 12, 1962, 27, abstract 12-1-53 k (Czech. pub.,
cl. 42 d, 2/01, 471, 7, 42p, 10/10, 42w, 32, no.
99978, June 15, 1961)

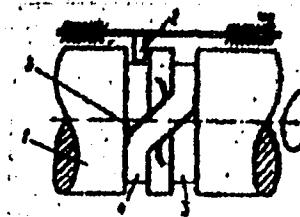
TEXT: A patent is described for an arrangement determining the direction of rotation of coils and in particular of magnetic tape coils in memories of fast computers. With the change in the direction of rotation of shaft 1 (see Fig.), the catch 2, placed on the axis of the indicating instrument, is displaced under the action of the spring clip 3 from groove 4 into groove 5, producing a displacement of the instrument pointer. Another construction version for locating the spring clip in directional grooves of shaft 1 is suggested. This is in the form of a rotating lock which, with a change in the direction of rotation, displaces the catch 2

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Direction-of-rotation indicator

S/194/62/000/012/006/101
D201/D308

from one groove into the other. 2 figures. *(Abstracter's note:
Complete translation.)* ✓



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5/27/63/00/002/022/030
A050/A126

AUTHORS: Jura, Stanislav, Valach, Miroslav, Plesinger, Moris

TITLE: Start-stop device for recording tapes in computers

PERIODICAL: Referativnyy zhurnal, Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, no. 2, 1963, 47 - 48, abstract 23247 p (Czech pat. cl. 42m, 32, 42g, 18, no. 100308, July 15, 1961)

TEXT: Patented is a start-stop mechanism for recording tapes in computers, teleprinters, etc, giving the possibility of reversing the direction of motion of the tape and designed for use in the input mechanism of the computer. The gist of the invention consists (see Figure) in the application of a pneumatic braking chamber 20 and two bearing rollers 30 and 40 revolving in opposite directions with pneumatic control. The chamber 20 and the rollers 30 and 40 are connected through a distributor 50 with the pneumatic system 95 (not shown in Figure). The recording tape 10 with magnetic recording is pressed both to the surface of the chamber 20, equipped with sucking holes (suckers) 21, and to the surface of the rollers 30 and 40, equipped with suckers 31 and 41; here, in order

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S/271/61/010/002/022/030
A060/A120

Start-stop device for recording tapes in computers

to eliminate undesirable adhesion of the recording tape to a large portion of the circumferences of the rollers 30 and 40, part of their suckers is closed by protective segments 33 and 43. The connection of the chamber 20 and rollers 30 and 40 with the distributor 50 is realized by means of channels 32, 32, and 42, and pipes 25, 35, and 45, connected to the openings 53, 52, and 54 of the distributor. The operation of the system is controlled by the displacement of the valve 51. In the position indicated in the figure braking of the tape is realized, while the displacement of the slide 51 to the right or left causes the motion of the tape to one side or the other. The reading head (not shown in the figure) is located directly over the chamber 20 and, for the sake of improving the reading conditions, part of the suckers of the chamber is connected directly to the pneumatic system 50, thus ensuring a close adhesion of the tape to the upper surface of the chamber during the tape rewinding process. The mechanism is distinguished by its very high speed. There is one figure.

I. P.

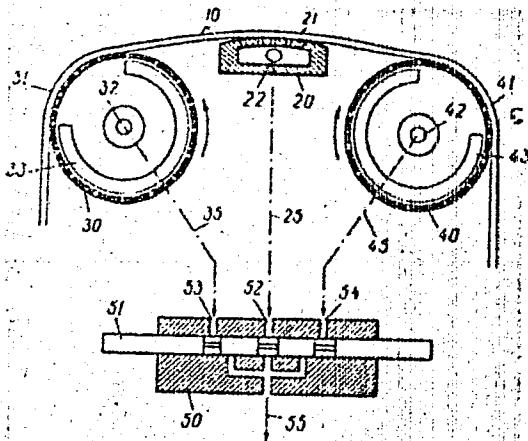
[Abstracter's note: Complete translation]

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Start-stop device for recording tapes in computers

8/21/63/000/002/022/030
ADIX/A126

Figure.



45743

S/194/62/000/012/007/101
D201/D308

9.7910

AUTHORS: Jura, Stanislav, Valach, Miroslav and Plesinger, Boris

TITLE: A drive mechanism for a recording tape, particularly for use with a magnetic-tape memory arrangement

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 12, 1962, 30-31, abstract 12-1-60 y (Czech. pat., cl. 42g, 10/01, no. 101003, Sep. 15, 1961)

TEXT: A patent for a recording tape feed mechanism is described. The mechanism is very rapid, has no dead zones and can reverse the direction of the tape motion. The invention is based on the use of a pneumatic start-stop mechanism for the control of the motion of the reeled tape. The mechanism has a control unit and a roller drive, the reading arrangement being placed above the braking chamber. The reels are driven individually and have locking mechanisms for the required reeling mode of the tape. At both sides of the start-stop mechanism are placed spare cassettes with loose tape inside them. The cassettes are designed in the shape of pris-

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S/194/62/000/012/007/101

D201/D308

A drive mechanism ...

matic containers with bottoms connected to weighing devices. The latter have a system of signalling which determines the weight of the tape in the corresponding receiving cassettes. Signal devices of both weighing arrangements are connected to each other and to the corresponding drive mechanisms through intermediate control units. This results in uniform winding of the tape on to the reel and provides for optimum working conditions of the start-stop mechanism. The necessary speed of operation of the whole device is obtained by using contactless components, such as photoelectric pickups for the control of position of cassette bottoms, fast electromagnetic clutches, etc. The mechanism uses blocking systems securing a predetermined sequence of operations of individual parts. 1 figure. *[Abstracter's note: Complete translation.]*

Card 2/2

JURA, Stanislav, inz.

Pneumatic drive of a recording chart. Stroj cas 14 no.2:162-172
'63.

1. Vyskumny ustav matematickych stroju, Praha.

ACCESSION NR: AP4039260

Z/0041/64/000/003/0270/0291

AUTHOR: Jura, Stanislav (Yura, Stanislav) (Engineer)

TITLE: Gripping mechanisms and brakes for electromechanical start-stop systems

SOURCE: Strojnický časopis, no. 3, 1964, 270-291

TOPIC TAGS: computer element, gripping mechanism, start-stop system brake, start-stop system, electromechanical start-stop system, electromechanical machine, electromechanical mechanism, start-stop mechanism

ABSTRACT: The paper deals with gripping mechanisms and brakes of electromechanical start-stop systems. Proceeding from the simplest example with a pressure roller, the author shows that there is a way to employ a non-rotating hold-down member instead of a roller. He further demonstrates the application of a hold-down band for the gripping mechanism as well as for the braking apparatus. The relations for computing the forces acting on the band during start and stop are derived for individual cases. The forces acting on the pressure roller are also calculated. Shoe or block brakes and block brakes working in conjunction with a pressure roller are discussed. Their functioning is compared with a brake and hold-down band combination. Orig. art. has: 13 figures and 103 equations.

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ACCESSION NR: AP4039260

ASSOCIATION: Vyzkumny ustav matematickych stroju, Prague (Computer Research Institute)

SUBMITTED: 26Feb63

DATE ACQ: 18Jun64

ENCL: 00

SUB CODE: IE

NO REF Sov: 001

OTHER: 012

Card 2/2

JURA, Stanislav, inz.

Analytic expression of the dependency of sliding friction coefficient on slipping velocities. Stroj cas 15 no.4: 358-364 '64.

1. Research Institute of Mathematical Machines, Prague.

JURA, Stanislav, inz.

Electronic circuits for power supply to fast electro-mechanical elements. El tech cas 15 no.5:274-287 '64.

1. Research Institute of Mathematical Machines, Prague,
Loretanske namesti 3.

JURKA, Stanislav

The theory and construction of start-stop systems for tape. "Traktor a prace inf 10:153-190" '64.

1. Research Institute of Mathematical Machines, Prague.

L 8291-66

ACC NR: AT5027854 SOURCE CODE: CZ/2503/65/000/011/0085/0106

40
5x1AUTHOR: Yura, S. — Jura, S.ORG: Research Institute of Mathematical Machines, Prague (Issledovatel'skiy institut matematicheskikh mashin)TITLE: Electrostatic start-stop systems of tape-advancing devicesSOURCE: Ceskoslovenska akademie ved. Vyzkumny ustav matematickych stroju. Stroje na zpracovani informaci, no. 11, 1965, 85-106TOPIC TAGS: magnetic tape, punched paper tape, tape recorder, electrostatic motor, electrostatics

ABSTRACT: This paper is a continuation of the author's article on start-stop systems published earlier (Sbornik Stroje na zpracovani informaci, c. 10, NCSAV, Prague, 1964). It discusses the principle of electrostatic start-stop systems and the design of advancing devices and brakes for both punched and magnetic tapes. The performance of a U.S. both-direction start-stop system (USA patent 3,057,529 Tape transport apparatus. Official gazette — October 1962, Vol. 783, Number 2, p. 420) as well as of other devices is described. Attention is drawn to the advantageous utilization of the Johnson-Rahbeck's effect. The author presents a derivation of relations for the acceleration or retardation of the tape during its starting or stopping, on the basis of which the starting or stopping times of the tape can be

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L 8291-66

ACC NR: AT5027854

determined. He discusses also controlled supply sources for electrostatic start-stop systems. The article concludes with a discussion of the various theoretical expressions and a list of advantages and shortcomings of the existing devices. Orig. art. has: 66 formulas and 15 figures.

SUB CODE: EE, IE, DP / SUBM DATE: 16Dec83

BC
Card 2/2

L 20534-66

ACC NR: AP5024852 (A) SOURCE CODE: CZ/01/78/65/000/009/0022/0022

AUTHOR: Jura, S. (Engineer) (Prague)

ORG: none

TITLE: CZ Pat. No. 4734-64

SOURCE: Vynalezy, no. 9, 1965, 22

TOPIC TAGS: logic circuit, electronic amplifier, electrode, positive feedback, logic element, air flow, switching circuit

TRANSLATION: The signal converter from electrical logic circuits to pneumatic circuits is characterized by the fact that the outlets of the electrical logic circuits are equipped with electronic amplifiers. The amplifier outlets have spark gap electrodes built in cells whose openings are located close to the main air flow of the pneumatic logic element with positive feedback.

SUB CODE: 09 SUBM DATE: 24Aug64

Card 1/1 Lfc

54
B

N

L 45419-66

ACC NR: AT6029404

SOURCE CODE: CZ/2503/66/000/012/0037/0065

20
31

AUTHOR: Yura, Stanislav — Jura, Stanislav

ORG: Research Institute of Calculating Machines, Prague (Issledovatel'skiy
institut matematicheskikh machin)

TITLE: Calculating procedure in determining the parameters of start-stop
systems for tape winding mechanisms

SOURCE: Ceskoslovenska akademie ved. Vyzkumny ustav matematickych stroju.
Stroje na zpracovani informaci., no. 12, 1966, 37-65

TOPIC TAGS: magnetic tape, tape winding mechanism

ABSTRACT: The article analyzes the basic correlations describing the action of electromechanical elements that directly affect pneumatic and electromechanical start-stop systems by causing travel in the magnetic tape. The author describes a method of determining the terminal parameters of the start-stop systems. The time element in the travel of the mobile part of the electromechanical element is calculated. Possible solutions of the problem of the proper tape start in both the

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L 45419-66

ACC NR: AT6029404

above-mentioned systems are studied. It is shown that it is virtually impossible to obtain a precise mathematical solution to the start and stop process of tapes in start-stop systems in which the electromechanical element causes significant travel. From measurements of changes in start-stop speeds of the above systems, it can be affirmed that the total start or stop time of the tape can be divided into two parts. The first is the travel time of the electromechanical element; the second is the actual start or stop time of the tape. It can, moreover, be seen that the latter occurs during a constant rate of acceleration or deceleration. This makes it relatively easy to determine the parameters of the start-stop system. Although the results of theoretical calculations will differ somewhat from practical ones, this difference will not affect appreciably their practical application. The above article, written in the international system of units is the further development of a topic about which the author has written an article entitled "Theory and design of start-stop systems of tape-winding mechanisms", published in the no. 10 issue of this collection. Orig. art. has: 16 figures and 86 formulas. [GC]

SUB CODE: 14/ SUBM DATE: 20Jan64/ ORIG REF: 005/ SOV REF: 003/
OTH REF: 001/

Card 2/2 hs

L 45087-66

ACC NR: AT6029409

SOURCE CODE: CZ/2503/66/000/012/0185/0208

20
B+1

AUTHOR: Jura, Stanislav

ORG: Research Institute of Mathematical Computers, Prague

TITLE: Theory and design of rewind equipment for recording tape

SOURCE: Ceskoslovenska akademie ved. Vyzkumny ustav matematickych stroju.
Stroje na zpracovani informaci, no. 12, 1966, 185-208

TOPIC TAGS: recording tape, punching tape, magnetic tape

ABSTRACT: The author discusses some problems presented by the rewinding equipment for recording tape, which have not been fully analyzed or have not yet been investigated by other authors. He starts by explaining the full meaning of the terms he uses in his article and then explains the determination of the parameters of the spools and reels in relation to the tape. He then describes the various types of tape reservoirs or buffers of the rewinding equipment. A reservoir equipped with a control lever, and a pneumatic reservoir, both of which can be used for punched as well as for magnetic tape, are discussed in

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L 45087-66

ACC NR: AT6029409

detail. It is explained how the latter lies in the form of loops in reservoirs with loosely folded tape. The author then describes derived reservoirs, and discusses the spool driving mechanism and the calculation of the minimum tape supply required for the unidirectional rewinding mechanism. Determination of the tape tension during the rewinding process is described. In conclusion the author remarks that much more space would be needed to discuss all the problems concerning the rewinding mechanism for the recording tape. Orig. art. has: [GC] 16 figures and 71 formulas.

SUB CODE: 14/ SUBM DATE: 12Sep64/ ORIG REF: 004/ SOV REF: 001/
OTH REF: 006/

Card 2/2 blg

JURACKA, F.

Remarks of the synthesis of organic peroxides.

p. 192 (Chemicky Prumysl. Vol. 7, no. 4, Apr. 1957, Praha, Czechoslovakia)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2,
February 1958

JURACKA, F.

SCIENCE

Periodical CHEMICKÉ LISTY. Vol. 52, no. 1, Jan. 1956.

JURACKA, F. Fluoboric acid as catalyst for the alkylation of phenols. p. 1hd.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 3, March, 1959. Uncl.

JURACKA, F.

✓ Nonexplosive acetyl benzoyl peroxide. Brantldek

Juracka, František Lešek, and Miloslav Sytník. Czech. 88,810, Feb. 15, 1959. When 200 g. reaction soln., obtained according to Czech. 85,196 (C.A. 50, 107024) contg. 40.6% title compd. (I), was mixed with 2000 ml. H₂O and the mixt. stirred 10 min., the temp. rose from 12° to 21° and an oil sepd. Approx. half of the acid turbid aq. supernatant was filtered off, 1000 ml. H₂O added, and the mixt. stirred 5 min. After 10 min. I became cryst.; the ug. layer was sepd. and the I in H₂O treated with warm (40°) 10% NaHCO₃ soln. (400 ml.) which caused melting of the crystals. The resulting soln. stirred 5 min., 80 g. di-Bu phthalate added, the mixt. stirred another 5 min., the upper NaHCO₃ layer discarded, the di-Bu phthalate layer washed twice with 500 ml. H₂O, the H₂O carefully sepd., and the residue passed over 200 g. silica gel to remove the last traces of moisture gave 154 g. soln. contg. 48.6% I, the recovery of I being 92.5%. L. J. Urbánek.

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L. J. Urbánek

COUNTRY	: CZECHOSLOVAKIA	G
CATEGORY	: Organic Chemistry. Synthetic Organic Chemistry	
ABS. JCUR.	: RZKhim., No. 1 1960, No.1161	
AUTHOR	: Juracka, F.	
INST.	: "	
TITLE	: Use of Fluoboric Acid as Catalyster in the Alkylation of Phenol.	
ORIG. PUB.	: Collect. Czechosl. Chem. Commun., 1959, 24, No 4, 1338-1340	
ABSTRACT	: No abstract See RZKhim., No 2, 1959, No 4639.	

CARD: 1/1

G-12

JURATEK, J. (1979) *Chem. prumysl* 20, 200-71 (1979).

Distr: 4E2c(j)/4E3d

Chloromethylation of a copolymer from styrene and divinylbenzene, Frantisek Jurátek (Vysoká škola syntetické chemie a řemesla, Pardubice, Czechoslovakia), *Chem. prumysl* 20, 200-71 (1979). Chloromethylation of a copolymer (I) from styrene and divinylbenzene with chloromethyl ether (III) was studied in the presence of Friedel-Crafts catalysts (III) such as AlCl_3 , FeCl_3 , SnCl_4 , and ZnCl_2 ; a part of III was sometimes replaced by dichloroethane. The catalytic activity of III was measured by the Cl-content of chloromethylated I, and from the decrease of the wt.-swelling ratio the extent of secondary branching and network formation was calc'd. With 1 mole of I + 16 moles of II + 30% (by wt.) of III (based on I) at 65° and a reaction time of 2 hrs., the highest yield of chloromethyl deriv. was obtained with FeCl_3 (0.979), and the lowest with AlCl_3 (0.770), the wt.-swelling ratio being the same for AlCl_3 , FeCl_3 , SnCl_4 , and ZnCl_2 (0.31-0.37 g. of toluene/g. of copolymer). Increasing concns. of III increased the substitution. The wt.-swelling ratio was proportionately decreased as a result of methylene-bridge formation through a reaction of unsubstituted aromatic nuclei with chloromethylene groups.

J. Schetula

JURACKA, Frantisek, inz.

Checking of basic annexes by organic substances. Energetika Cz 11 no.10:
501-503 0 '61.

JURACKA, Frantisek

Effect of increased temperatures on properties of strongly
basic styrene divinylbenzene anoxes. Chem prum 12 no.3:158-161
Mr '62.

1, Vzkumny ustav syntetickych pryskyric a laku, Pardubice.

5.3831

26272

Z/009/61/000/008/005/005

E112/E153

AUTHORS: Juračka, František, and Kašpar, Karel

TITLE: Adsorption of trimethylamine on chloromethyl-divinylbenzene-styrene copolymers

PERIODICAL: Chemický průmysl, 1961, No.8, pp. 444-445

TEXT: The batchwise amination of chloromethylated divinylbenzene-styrene copolymers (CDSC) has been previously described by D. Jones (Ref.2: Ind. Eng. Chem. 44, 2686 (1952)). The present paper reports the adsorption of trimethylamine by CDSC from aqueous solutions under dynamic conditions in an absorption column. The effects of trimethylamine concentration, rate of flow and reaction temperature on yields are studied. A diagrammatic cross-section of the apparatus (Fig.1) and experimental details are presented. CDSC was allowed to swell in toluene, the excess of which was removed by suction. 90 ml. of CDSC were placed in column k_2 (27 mm diameter, 270 mm long). A solution of trimethylamine was then introduced into the column from container z_1 through float-valve P , dripper k_1 and heat exchanger V , in which the solution of trimethylamine was preheated. It enters

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Adsorption of trimethylamine on E112/E153

column k through the three-way tap TK₁, and is finally led through three-way tap TK₂ into the calibrated cylinder OV. Heat exchanger and jacket of column k₂ are heated by means of water from thermostat Th. The system was closed hydraulically by means of wash-bottles p, containing dilute sulphuric acid. The reacted solution of trimethylamine was withdrawn from the system at regular time intervals through TK₂ and the concentration of trimethylamine determined acidometrically. Its concentration was plotted against volume, and comparative curves were plotted for the absorption of trimethylamine on a non-chloromethylated divinylbenzene-styrene copolymer. On conclusion of each experiment samples of the resin were withdrawn from different parts of the column and their anion-exchange capacity tested. Results of tests showed that high concentrations of trimethylamine (20% solutions) gave unsatisfactory products. The reaction was strongly exothermic, leading to boiling and escape of free trimethylamine. Flow of aqueous trimethylamine was finally completely stopped. Dilute solutions improved yields and sorption of trimethylamine was found to increase inversely with the charge. Lower concentrations of trimethylamine permit the study of temperature effects on the rate of conversion, the latter

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E112/E153

Adsorption of trimethylamine on

increasing with increased temperatures. The distribution of anion-exchange capacity within the column is presented in the form of a table, showing that in most cases highest capacity is found in the bottom part of the column, moving upward with increased concentrations of trimethylamine. Sorption curves showed generally considerable irregularities and this is attributed to a number of factors: 1) distribution coefficient of the system trimethylamine-toluene-water; 2) diffusion of amine through swollen particles of the copolymer; 3) hydrodynamic conditions during contact and mixing of copolymer with water and amine. It is felt by the authors that a quantitative treatment of the sorption process cannot as yet be given, but that a dynamic process based on a through-flow technique is feasible. There are 3 figures, 1 table and 2 English references. The English language references read as follows:
Ref.1: K.W. Pepper, M. Paisley and M. Young. J.Chem.Soc., 1953,
4097.
Ref.2: D. Jones. Ind.Eng.Chem., V.44, 2686 (1952).
Acknowledgments are expressed to Engineer J. Stamberger, C.Sc.,
and Engineer K. Dusek, C.Sc.

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26272

Z/009/61/000/008/005/005
E112/E153

Adsorption of trimethylamine on ...

ASSOCIATION: Výzkumný ústav syntetických pryskyřic a laku, Pardubice (Research Institute for Synthetic Resins and Paints, Pardubice)

SUBMITTED: April 1, 1961

Caption to Fig.1 Diagram of apparatus.

Z₁ - container of starting solution; Z₂ - container of reacted solution; P - float valve; k₁ - dripper (to gauge rate of flow); k - column with jacket; K₁, K₂ - taps; TK₁, TK₂ - three-way taps; OV - calibrated cylinder; V - preheating of amine-solution; Th - thermostat; p - wash bottles.

Card 4/5

JURACKA, FRANTISEK

SHTAMBERG, Yuriy [Stamberg, Jurij]; JURACKA, Frantisek [Juracka, Frantisek]

New method for determining the exchange capacities of anion
exchangers. Zhur.prikl.khim. 35 no.10:2295-2302 O '62.

(MIRA 15:12)

1. Pardubitskiy nauchno-issledovatel'skiy institut sintetiches-
skikh smol i lakov, Chekhoslovakiya.
(Ion exchange resins)

JURACKA, Frantisek

Effect of the reticulation on the properties of strongly
basic styrene-divinyl benzene anion-exchanging resins.
Chem zvesti 14 no.10:526-530 O '64.

1. Research Institute of Synthetic Resins and Lacquers,
Pardubice.

JURAGA, A., arkh.

Chain system in the production of furniture. Tesla no. 13/14:15-16
S-0 '55.

JURAGA, Ante, arh. (Beograd)

Polishing ~~the~~ wood surface, and problem of modern furniture.
Tesla no.15/16:32-35 N-D '55.

JURAIC, Josip

YUGOSLAVIA/Chemical Technology - Chemical Products and Their
Application. Leather. Mechanical Gelatins.
Tanning Materials. Technical Albumins.

H-35

Abs Jour : Ref Zhur - Khimiya, No 17, 1958, 59689
Author : Glozic Berislav, Rusan Zvonimir, Vukovic Tomislav,
 Juraic Josip, Petrunic Zvonko, Hrvoj Stjepan
Inst Title : -
 : The Technology of Combined Chrome-Vegetable Tanning
 of Sole Leather.
Orig Pub : Koza i obuca, 1958, 7, No 1, 1-8
Abstract : No abstract.

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JURAJDA, J.

"Economizing Production in Quarries", P. 249, (STAVIVO, Vol. 32, No. 7,
July 1954, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12,
Dec. 1954, Uncl.

JURAJDA, K.

"L. Hauptman's *Prirucka Pro Strelmistry* (Handbook for Blasters); a Review", P. 262, (STAVIVO, Vol. 32, No. 7, July 1954, Praha, Czechoslovakia)

SO: Monthly List of East European Acquisitions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

JURAJDA, K.

"Millisecond blasting in Hranice quarries." (p. 179). STAVIVO (Ministerstvo
stavebnich hmot). Praha, Vol 32, No 8, Mar. 1954.

SO: East European Accessions List, Vol 4, No 8, Aug 1954

JURAJDA, Kamil, inz.

Contribution to the surveying of underground historical monuments.
Geod kart obzor 10 no.12:306-307 D '64.

1. Institute of Geodesy and Cartography, Brno.

KRASNA, V.; SYNKOVA, J.; Technicka spoluprace; JURAJDOVA, J.;
KRUTZNER, E.; WITZOVA, D.

Contribution to the study on the effect of pollution of the
atmosphere with cancerogenous substances on the occurrence of
bronchogenous carcinoma. Cesk. hyg. 8 no.6:320-327 J1 '63.

1. HES-NV Praha.
(AIR POLLUTION) (SMOKING)
(CARCINOMA, BRONCHOCENIC) (BENZOPYRENES)
(HYDROCARBONS) (ARSENIC)

JURAK, A.

19
Nucleon-nucleon interaction with energy greater than 10^4
e.v. P. Ciołk, M. Danylo, J. Gierula, A. Jurak, M. Mie-
sowicz, J. Perdeck, L. Vrana and W. Wójcicki (Inst. Nuclear
Research, Warsaw). Nuovo Cimento 6, 1400-16 (1937). An
event of very high energy of 3.3×10^4 e.v. was discovered
in a stack of emulsion irradiated at high altitudes.
Allen I. Cohen

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Vc 3c (2)
Pe 3d

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CIA-RDP86-00513R000619710020-5

JURAK, ~~MR~~ A.

APPROVED FOR RELEASE: 08/10/2001

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JURAK, Danuta, mgr inz.

Further development prospects of studies on free surface
water evaporation in Poland. Gosp wodna 24 no. 1: Supplement:
Panstw inst hydrol meterol 7 no. 1: 41 Ja '64.

1. Zaklad Wod Stojacych, Panstwowy Instytut Hydrologiczno-Meteorologiczny, Warszawa.

SOWINSKI, Wladyslaw, ir. med.; JURAK, Jan; MIKNIK, Zbigniew; PUJDAK, Jerzy; ZARSKI, Bohdan

Delayed primary fixation of fractures with spongy bone grafts in the treatment of "difficult" shin fractures. Chir. narzad. ruchu ortop. Pol. 30 no.1:1-5 '65.

1. Z Wojewódzkiego Szpitala Chirurgii Urazowej w Piekarach Śląskich (Dyrektor i Kierownik Naukowy: dr. med. Wl. Sowinski).

JURAK, M.

Notes on the introduction of the KTAP (Wage Scale for Technical and Administrative Employees) in the sugar industry. (Conclusion) p. 292. Vol. 7, no. 7, 1956. PRUMYSL POTRAVIN. (Ministerstvo potravinarskeho prumyslu) Praha

SOURCE: East European Accessions List, (EEAL), Library of Congress
Vol. 5, no. 12, December 1956.

JURAK, M.

TECHNOLOGY

Periodical: LISTY CUKROVANICKE. Vol. 74, no. 10, Oct. 1958

JURAK, M. Problems of the new wage system with regard to the bulk buying of sugar beets. (Conclusion) Informacni. p. 33

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 3
March 1959 Unclass.

POPELKA, Rudolf; JURAK, Pavel

Regulation of the disconnecting switch of a medium voltage melting furnace. Elektrotechnik 17 no.11:322-324 N '62.

1. Elektrodrzba; Tatra, n.p., Koprivnice.

ROZHOLD, Jaroslav, MUDr; JURAN, Jiri, MUDr.

Experimental replacement of the right heart by extracorporeal circuit.
Rozhl. chir. 36 no.6:376-388 June 57.

1. Chirurgicke oddeleni 5. Okruhovej nemocnice Ruzomberko prednosta
MUDr Stefan Simko.

(HEART, artif.

extracorporeal pumps of various designs in replacement
of right heart in dogs. (Cz))

KLIMA, Milos; KLENOVA, Vera; PROCHAZKA, Zdenek; JURAN, Josef

Disorders of vision in expansive lesions of the chiasmatic region.
Sborn. ved. prac. lek. fak. Karlov. univ. (Hradec Kral) 4 no.2:119-137
'61.

1. Oční klinika; prednosta prof. MUDr. M. Klíma.
(OPTIC NERVE neoplasms) (BRAIN NEOPLASMS physiol.)
(VISION)

REHAK, Svatopluk; SKRANC, Oldrich; JURAN, Josef

Experimental studies on some theoretical problems of tonography.
Sborn. ved. prac. lek. fak. 'irlov. univ. (Hrad Kral) (Suppl.)
4 no.4: 393-404 '61.

1. Katedra oculiho lekarstvi; prednosta prof. MUDr. M. Klíma
Katedra fyziologie; prednosta prof. MUDr. J. Melka.
(INTRAOCULAR PRESSURE)

JURAN, Josef

SURNAME, Given Names

(6)

Country: Czechoslovakia

Academic Degrees: M.D.

Charles University (KU) Prague, Kralove

Affiliation:

Sources: Prague Prakticky Lekar, Vol 41, No 15-16, Aug 21, 1961; pp 675-676

Data: "Suicidal Attempt with Meprobamate"

JURAN, Josef ; Ophthalmologic Clinic (Klinika nemoci ocnich) Chief: Prof Dr M. KLIMA

MELLAN, Jiri ; Psychiatric Clinic (Klinika Psychiatryska) Chief: Dr. V. PELIKAN

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REHAK, Svatopluk; SKRANC, Oldrich; JICHA, Josef; JURAN, Josef

Protein electrophoresis of primary and secondary aqueous humor in rabbits. Sborn. ved. prac. lek. fak. Karlov. univ. (Hrad Kral) 5 no.1:61-72 '62.

1. Ocní klinika; prednosta prof. MUDr. M. Klima Katedra fyziologie; prednosta prof. MUDr. J. Melka Ustřední biochemická laboratoř; prednosta prim. MUDr. J. Jicha.

(PROTEINS) (AQUEOUS HUMOR)

PROCHAZKA, Zdenek; JURAN, Josef

Temporal arteritis, Sborn. ved. prac. lek. fak. Karlov. univ. (Hrad
Král) (Suppl) 5 no.1:93-99 '62.

l. Prednosta prof. MUDr. M. Klíma.

(TEMPORAL ARTERITIS)

JURAN, Josef; PROCHAZKA, Zdenek

A case of cortical blindness after acute carbon monoxide poisoning.
Sborn. ved. prac. lek. fak. Karlov. univ. (Hrad Kral) 5 no.1:105-111
'62.

1. Oční klinika; prednosta prof. MUDr. M. Klíma.
(CARBON MONOXIDE POISONING) (BLINDNESS) (CEREBRAL CORTEX)

REHAK, S.; SKRANC, O.; JURAN, J.

Effect of increased intraocular pressure on the flow equilibrium
of the eye. Česk. oftal 19 no.2:90-96 Mr '63.

1. Oční klinika lekarské fakulty KU v Hradci Králové, vedoucí prof.
dr. M. Klíma, a katedra fyziologie lekarské fakulty v Hradci Králové,
vedoucí prof. dr. J. Melka.
(INTRAOCULAR PRESSURE) (GLAUCOMA) (RECEPTORS NEURAL)

REHAK, S.; SKRANC, O.; JURAN, J.

Effect of decreased intraocular pressure on the flow equilibrium
of the eye. Cesk. oftal 19 no.2:97-103 Mr '63.

1. Katedra ocnih lekarstvi lek. fakulty KU v Hradci Kralove, vedouci
prof. dr. M. Klima, a katedra fysiologie lek. fakulty KU v Hradci Kralove,
vedouci prof. dr. J. Melka.
(INTRAOCULAR PRESSURE) (RECEPTORS NEURAL)

CZECHOSLOVAKIA

J. SVERAK, J. JURAN, Z. PROCHAZKA and S. NETTL, Eye Clinic (Ocni klinika) Head (prednosta) Prof Dr M. KLIMA, and Neurology Clinic (Neurologicka klinika) Head Prof Dr M. SERCL DrSc, Medical Faculty, Charles University (Lekarske fakulta Karlove University) Hradec Kralove.

"Some Special Problems in Ophthalmoneurologic Diagnosis."

Prague, Ceskoslovenska Neurologie, Vol 26(59), No 3, May 63; pp 201-209.

Abstract [English summary modified]: Detailed discussion of papilledema, choked disc, optic neuritis and pseudoneuritis which author saw in 8 young myopic patients with treatment-refractory headaches as only symptoms. Precise diagnosis and prognosis may require not only photographic comparison of papillae at different times, but also microscopy and examination of parents and siblings. Four photographs, graph, 10 Czech and 44 Western references.

1/1

SVERAK, J.; JURAN, J.; PROCHAZKA, Z.; NETTL, S.

On some difficult problems in ophthalmoneurological
diagnosis. Cesk. neurol. 26 no.3:201-209 My '63.

1. Ocní klinika lekarské fakulty KU v Hradci Kralové,
prednosta prof. dr. M. Klíma. Neurologická klinika
lekarské fakulty KU v Hradci Kralové, prednosta prof. dr.
M. Serci, DrSc.
(PAPILLEDEMA) (OPTIC NEURITIS)

REHAK,S.; SKRANC,O.; JURAN,J.

Attempt at combined blockade of column reactive hypertension.
Cesk. oftal. 20 no.1:1-8 Ja'64.

1. Ocni klinika lekarske fakulty KU v Hradci Králové (pred-
nosta: prod.dr.M.Klima) a Katedra fyziologie lekarske fakulty
KU v Hradci Králové; vedouci:prof.dr.J.Melka.

*

REHAK,S.; SMERAL,L.; JURAN,J.

Diagnostic significance of tonography in simple glaucoma. Cesk. oftal. 20 no.1:9-11 Ja '64.

1. Ocni klinika lekarske fakulty KU v Kradci Kralove; prednosta: prof.dr.M.Klima.

SMERAL, L.; REHAK, S.; JURAN, J.

Combination of tonography with loading tests in the early diagnosis of glaucoma. Cesk. oftal. 20 no. 4:289-293 J1'64

1. Katedra očního lekarství lek. fakulty KU [Karlovych universit] v Hradci Králové; vedoucí: prof. dr. M. Klíma.

REHAK,S.; SKRANC,O.; JURAN,J.; JICHA, J.,MUDr.

A biochemical contribution to the pathogenesis of reactive hypertension of the eye. Cesk. oftal. 21 no.3:218-225 My '65.

1. Katedra očního lekarství (vedoucí: prof. dr. M. Klíma, DrSc.), katedra fyziologie (vedoucí: prof. dr. J. Melka) lekarské fakulty Karlovy Univerzity v Hradci Králové; Ustřední biochemická laboratoř Krajského ústavu národního zdraví v Hradci Králové (vedoucí: MUDr. J. Jicha).

JURAND, B.

ca.

PROCESSES AND PROPERTIES OF

114

Influence of 6-methyl-3-thiouracil on thyroid of rabbit. A. Jurand (Univ. Cracow, Poland). *Comput. rend. soc. belg. med.* 141, 1109 (1947).—In adult rabbits 0.1 g. of methyl-thiouracil orally daily for 8 days produced marked hypertrophy of the thyroid, with histol. changes. A return to normal occurred in about 3 weeks after withdrawal of the drug. Similar treatment had very little effect on the thyroid of the guinea pig. L. E. Gilson

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1974-1984 METALLURGICAL LITERATURE CLASSIFICATION

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JURAND, A.

111

Studies on the antithyroid and leucopoietic activity of several derivatives of 2-thio-6-methyluracil. Author: Jurand and Jozef Niwelinski (Univ. Krakow, Poland). *Bull. intern. acad. polon. sci., Classe med.* 1949, 87-101 (in English); cf. *C.I.L.* 43, 2320. Condensation of thiourea with the corresponding alkyl acetoacetic ester gave the following 5-alkyl-2-thio-6-methyluracil (m.p.): Pr, 213°; (1) Bu, 201°; (2) Am, 183°; heptyl, 184°; octyl, 182°; iso-Pr, 257.5°; (3) iso-Bu, 227°; (4) iso-Am, 210°. The antithyroid and leucocytic activities were compared after oral administration to rabbits. Results on previously unreported compds are:

	% change in white cell count	Antithyroid activity
2-thio-6-methyluracil	~28%	+++
(1)	~15	++
(2)	85	++
(3)	65	++
(4)	110	+

Richard F. Riley

✓ JURAND, A.

Iodine utilization in the organism and hormones of the thyroid gland. Jan Kielbasa and Artur Jurand (Med. Acad., Cracow, Poland). *Wiedomosci Chirurgiczne* 47:342-61 (1974). A review. Adam Sporzyński

JURAND, A.; ZIEMICHOD, T.

Effect of the mercury vapor lamp on growth and development of
tadpoles of *Rana temporaria* L. Przegl. lek., Krakow 8 no. 4:107-111
1952. (CLML 22:5)

1. Of the Institute of Biology (Head--Prof. St. Skowron, M. D.) of
Krakow Medical Academy.

JURAND, A.

✓ Histochemical studies of the development of adrenals and gonads in rabbits under physiological conditions. A. Jurand and E. Czubick (Folia biol., Cracow, 1953, 1, 124-138). The no. of birefringent cholesterol granules in the adrenal cortex of new-born rabbits is greater in males than in females; but it becomes equal in both sexes at the age of 2 months, and is greater in females in the periods following. The increase and decrease, respectively, of these bodies

in the adrenal cortex is followed by corresponding changes in the amount of steroids, detectable by means of the Ashbel-Seligman reaction. In the ovaries, the birefringent granules appear at the age of 6 weeks; they form in older animals distinct "islets" which stain more intensely than the other cells of the gland. They occur in the interstitial gland tissue of the testicles only from the 2nd to the 12th week, but the Ashbel-Seligman reaction does not become intensified before the 2nd month. In the period from the 2nd to 4th week, this reaction is positive in the protoplasm of the Sertoli cells. The birefringent granulations appear temporarily in the gonads, reaching a max. no. at the same time as in the adrenal cortex. This indicates a parallel development of the secretory activity in both glands.

A. Stoerzer

POLON

Influence of certain nerve drugs upon regeneration of the tail of the tadpole, *Xenopus laevis*. I. Sodium bromide. A. Jurand (Zaklad Biol., AM, Krakow, Poland). *Folia Biol.* (Warszaw) 2, 201-14 (1954) (English summary). -- NaBr soln., 0.45% (L.D. 1.5%, 24 hrs.) was used. Tadpoles with tails removed were 5, 10, 16, 20, 25, 30, 40, 45, and 50 days old. Only tadpoles older than 20 days were affected with respect to tail regeneration, as indicated by comparative expts. in equimol. NaCl soln. and in tap water. On comparing the results with those obtained by Volkovich and Negovskaya (Doklady Akad. Nauk S.S.R. 90, 686 (1963)) on *Rana ridibunda*, it is most probable that NaBr exerts its action on the diencephalon, and perhaps also upon the vegetative centers in the medulla oblongata and medulla spinalis.

Werner Jacobson

JURAND, A.

Vitality, a new notion in biology. p. 468, (WIEDZA I ZYCIE, Vol. 21, No. 7, July 1954, Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 5 May 1955, Uncl.

Suzanne P.

IV. Influence of certain drugs affecting the nervous system on the regeneration of the tail in *Xenopus laevis* tadpoles. II. Caffeine, a stimulant of the nervous system, checks the course of regeneration of the tail. A considerable slowing of regeneration is observed in younger tadpoles up to 80 days of age when a 0.01% soln is used; increasing the concn to 0.015% also checks regeneration in older animals. The checking effect is presumably caused on the one hand by the stimulating effect of caffeine on the function of the c.n.s. and on the other by the harmful influence of this alkaloid on the regenerating tissues themselves. It appears that, particularly in younger tadpoles, the action of caffeine on a diuretic point plays a prominent part. The mechanism of caffeine action on the

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connected with the source
affected by the actions of cation.

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JURAND, A.

Necteny in Xenopus laevis Daud. p. 315. FOLIA BIOLOGICA. Warszawa.
Vol. 3, no. 4, 1955.

SOURCE: East European Accessions List (EEAL), LC, Vol. 5, no. 3, March 1956

JURAND, A.

Impressions from a two-week scientific visit in Czechoslovakia. p. 585.
(KOSMOS BIOLOGIA. Vol. 5, no. 5, 1956, Warszawa, Poland)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, no. 12, Dec. 1957.
Uncl.

JURANEK, J.

"Redox potentials of rocks; methods of analysis, investigations in the lower underground strata."

p. 37 (Prace) No. 26/30, 1956
Prague, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. ?, no. 4,
April 1958

JURAND, A.

FOLIA BIOLOGICA. (Polska Akademia Nauk. Zaklad Zoologii Doswiadczonej) Warszawa. (Journal on Morphogenesis, genetics, and evolution issued by the Laboratory of Experimental Zoology, Polish Academy of Sciences; with English, French, and Russian summaries.)

The development and differentiation of gonads in Xenopus laevis Daud. tadpoles. p. 123.

Vol. 5, No. 3, 1957

Monthly List of East European Acquisitions (EEAI), LC, Vol. 8, No. 3, March 1959
Unclass.

JURANDOWA, J.

Study of the chemical composition and biological properties of
Krynica peat. Przegl. leg., Krakow 8 no.1:17-21 1952. (CIML 22:2)

1. Of the Second Clinic of Internal Diseases (Head--Prof. Tadeusz
Tempka, M. D.) of Krakow Medical Academy.

Juránek Jan

CZECHOSLOVAKIA/General Division. History. Classics. Personnel.

A-2

Abs Jour: Ref. Zhur. Biologija, No 4, 1958, 14155.

Author : Juránek Jan

Inst :

Title : Recollections of Jan Bezdek (On the 40th Anniversary of His Death, 9/III 1915)

Orig Pub: Mykol. sbor., 1955, 32, No 7-10, 140-141.

Abstract: The Czech mycologist Bezdek published a book with colored pictures, "Edible Mushrooms and Poisonous Mushrooms Similar to Them." (1901), and later published another book on the use of mushrooms.

Card : 1/1

-26-

JURANEK, J.

CZECHOSLOVAKIA / Cosmochemistry. Geochemistry. Hydro- D
chemistry.

Abs Jour: Ref Zhur-Khimiya, 1958, No 20, 67229.

Author : Zyka V., Juranek J.

Inst : Not given.

Title : On the Problem of Geochemistry of Mineral Waters
of the Northern and North-Western Parts of Presov-
skiy Kray.

Orig Pub: Sbirka praci vyzkumn. ust., 1956, E, No 17-21, 81-
117.

Abstract: Based on the data developed by the geochemical sur-
vey the major mineral water bearing localities are
classified as follows: 1) sodium-bicarbonate type,

Card 1/1

JURANEK, J.

"Reaction cell for the photocalorimetric ultramicroanalysis of gases. In German."

p. 1704 (Collection of Czechoslovak Chemical Communications, Vol. 22, no. 5,
Oct. 1957, Praha, Czechoslovakia.)

Monthly Index of East European Accessions (EEAI) IC, Vol. 7, no. 7, July 1958

JURANEK JIRI

CZECHOSLOVAKIA/Analytical Chemistry - Analysis of
Inorganic Substances.

E-2

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 24819

Author : Juranek Jiri

Inst :

Title : Photometric Determination of Traces of Carbon Dioxide in
Gases.

Orig Pub : Chem. listy, 1957, 51, No 4, 716-721; Colect. czechosl.
chem. communs, 1958, 23, No 1, 78-84

Abstract : An ultramicro-method has been worked out which is based
on measurement of lowering of extinction as a result of
decolorization of dilute solutions of NaOH, containing
phenolphthalein (I), on introduction of the gas being
analyzed. The apparatus for determination of CO con-
sists of a photocalorimeter which is connected with de-
vices which serve as dosimeter, permit the introduction
of gas samples into the measurement cell and an automatic

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CZECHOSLOVAKIA / Analytical Chemistry - Analysis of Inorganic Substances.

E-2

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 24819

amounts of CO_2 . In most instances solutions with an EC of 0.062, at the start of the reaction, are suitable. In conducting the measurements use is made of light filters with maximal light transmittance at 470-500 m μ . A concurrent control experiment is carried out with the inert gas-carrier used in the analysis. Limit of sensitivity of the method is $3 \cdot 10^{-6}$ % by volume of CO_2 . Duration of determination is 15 minutes.

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JURANEK, J.

Reaction cell for the photocalorimetric ultramicroanalysis of gases.

p. 776 (CHEMICKE LISTY) Vol. 51, no. 4, Apr. 1957,
Praha, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3,
March 1958

CZECHOSLOVAKIA / Analytical Chemistry. General.

E

Abs Jour: Ref Zhur-Khimiya, No 4, 1959, 11460.

Author : Juranek, J.

Inst : Not given.

Title : The Photometrico-Chromatographic Ultramicro-analysis of Gases: A Method to Analyze Substances Oxidizable to Carbon Dioxide.

Orig Pub: Chem. listy, 1957, 51, No 12, 2280-2286.

Abstract: There has been developed a method of chromatographic ultramicroanalysis of gases which may be oxidized to CO₂. The gases under analysis are separated at first by gas-adsorption chromatography. Electrolytic O₂ is used as a gas-carrier; in front of the columns, supplied with devices for cooling (dry ice) or for heating, an effective CO₂ absorber is installed. The separated

Card 1/3

8

COUNTRY	: Czechoslovakia	D
CATEGORY	:	
ABS. JOUR.	: RZKhim., No. 21 1959, No.	74580
AUTHOR	: Juranek, J.	
INST.	: Not given	
TITLE	: On the Problem of the Source of C ₁ -C ₆ Hydrocarbons in Soil Air Samples in Gas Prospecting	
ORIG. PUB.	: Prace Ustavu Rast Vyzkum, 9, No 34-39, 57-79 (1958)	
ABSTRACT	: A method and equipment for the quantitative chromatographic determination of gaseous hydrocarbons (C ₁ -C ₆) present in air-gas samples in concentrations from 10 ⁻⁶ to 10 ⁻⁵ vcl % are described. The application of the methods described has made possible the detection of an important source of error having a considerable effect on the course of exploration work, and consisting in the fact that the hydrocarbons detected in the samples are formed partially, and	

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CATEGORY	:	
ABS. JOUR.	: RZKhim., No. 21 1959, No.	74580
AUTHOR	:	
INST.	:	
TITLE	:	
ORIG. PUB.	:	
ABSTRACT	: sometimes wholly during the drilling as a result of the thermal decomposition of organic substances present in insignificant amounts in all rocks. The decomposition results from the elevated temperatures developed during the friction of the bit against the formation penetrated. The amount of hydrocarbons formed is proportional to the density of the rocks and to the energy expended in the drilling. The author has developed correction factors for the individual hydrocarbons and	

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CARD: 3/3

Juranek, J.
CZECHOSLOVAKIA // Analytical Chemistry--Analysis of organic
substances.

E-3

Abs Jour : Ref Zhur - Khimiya, No 14, 1959, No. 49302

Author : Juranek, J.

Inst : Not given

Title : The Photometric-Chromatographic Ultramicroanalysis of
Gases. II. The Determination of Hydrocarbons

Orig Pub : Chem Listy, 52, No 7, 1289-1298 (1958)

Abstract : The previously described method (for Communication I
see RZhKhim, No 4, 1959, 11460) has been applied to the
ultramicrodetermination of saturated hydrocarbons (SH)
from C₁ to C₁₀. Retention volumes of the SH have been
determined, the required amounts of adsorbent have been
calculated, and the dependence of the adsorption activity
of the adsorbent on the temperature has been determined.
The analysis of 10² ml of a 3 - 4 component mixture

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E-33

JURANEK, J.

"Combined colorimetric and chromatographic ultramicroanalysis of gases' I. Method of analyzing substances which can be oxidized to carbon dioxide. In German, p. 135

COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS, Praha, Czech., Vol. 24, No. 1, Jan. 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 6, Sept. 59

Unclassified

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5.5800

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D029/D049

AUTHOR: Juránek, J., Engineer

TITLE: A Photocolorimetric Ultra-Micro Gas Chromatograph

PERIODICAL: Paliva, 1960, Nr 4, pp 123-124

ABSTRACT: The author states that the most sensitive gas chromatographs, so far used, can detect materials of concentrations of 10^{-4} - 10^{-5} volume %. This article is a description of a novel photocolorimetric detector which is used in gas chromatography to increase the sensitivity to 10^{-7} volume %. (The detector has been registered as Czechoslovak Patent Nr 87879). The design of this very advantageous instrument is given in Diagram 1: The chromatographic section consists of a device measuring gas samples and feeding them to the apparatus with the speed of the carrier gas (2); a carrier gas supply

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A Photocolorimetric Ultra-Micro Gas Chromatograph

with a precise pressure regulation (1); a drier (5) and a chromatographic column (6). Upon elimination of noxious matters, scrubbers (4) are filled via multiway cocks with the appropriate chemical solution. For the analysis of large groups of carbonaceous substances (which can be analyzed by the $\text{CO}_2 - \text{Ba}(\text{OH})_2$ reaction according to the color change of phenolphthalein indicator) serves a combustion chamber (7), heated by a glowing 0.3 mm platinum wire. The indicator section consists of a complete photocolorimeter with 2 photocells and a device which feeds the reaction solution, prepared in the container (10), to a photocolorimetric reaction vessel (9). The quality of the reaction solution is controlled by the determined amount of

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A Photocolorimetric Ultra-Micro Gas Chromatograph

reactive components in the gas measured by a dosimeter (8). The apparatus is destined for the analysis of substances which are contained in the form of very unsaturated vapor in gases, or trace substances which can be evaporated by chemical reaction. Trace amounts of hydrocarbons are analyzed upon leaving the chromatographic column by oxydation in the combustion chamber and colorimetric indication of CO_2 (by the reaction of CO_2 in a $\text{Ba}(\text{OH})_2$ solution and indication of $\text{Ba}(\text{OH})_2$ concentration with phenolphthalein). The chromatogram thus produced has a sensitivity which still allows to determine 2×10^{-5} ml of methane, CO and CO_2 , 1×10^{-5} ml ethane, ethylene and acetylene,

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A Photocolorimetric Ultra-Micro Gas Chromatograph

0.7⁻⁵ ml of C₃ hydrocarbons and 10⁻⁶ ml of higher hydrocarbons. This sensitivity can be achieved by the possibility to change the temperature of chromatographic columns during adsorption (cooling causes better adsorption of even light hydrocarbons in the first section of columns) and during desorption (heating causes better desorption and the chromatogram development can be arbitrarily regulated). The temperature variation in chromatographic columns can also be used to determine C₃ and higher C components in methane (natural or biological gas) when the adsorption temperature is chosen so that methane passes the column, while the higher C com-

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A Photocolorimetric Ultra-Micro Gas Chromatograph

ponents are being already absorbed (Na-zeolite or silicagel at temperatures of -70°C). The sensitivity of these analyses is 10^{-6} to 10^{-7} volume % and the average error is 0.14×10^{-5} ml for concentrations of 10^{-7} ml and 3.14×10^{-5} ml for concentrations of 10^{-3} ml. The polarity of some adsorbents can be used to separate saturated from unsaturated hydrocarbons. The concentration of 10^{-6} volume % of acetylene can be determined in a 1,000 ml air sample within 80 minutes (when Na-zeolite is used as adsorbent) and 10^{-6} volume % of benzene, together with toluene, xylene and gasoline vapors can be determined simultaneously in one atmosphere-sample within 40-50 minutes. The determi-

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D029/D049

A Photocolorimetric Ultra-Micro Gas Chromatograph

nation of higher hydrocarbons is only limited by the highest temperature applicable to chromatographic column, which is approximately 170°C (Oxydation of hydrocarbons with the O_2 carrier gas occurs at higher temperatures). The colorimetric chromatographic indication method also enables to determine $10^{-6}\%$ of C in iron, iron alloys and carbides with an accuracy of $10^{-7}\%$, at larger C contents, the analysis of $10^{-4}\%$ can be made with a precision on $10^{-5}\%$ even in samples of 0.01 gram (however a larger error may arise due to inhomogeneity of such small samples). The photocolorimetric ultra-micro gas chromatograph

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A Photocolorimetric Ultra-Micro Gas Chromatograph

will be produced by the Laboratorní potřeby (Laboratory Equipment) Plant in Prague still in 1960.
The instrument is shown in Photo 2. There is 1 diagram and 1 photo.

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JURANEK, J.; AMBROVA, A.

Colorimetric-chromatographic ultramicroanalysis of gases. III.
Determining ultramicroamounts of carbon in technical iron and
iron alloys. Coll Cz Chem 25 no.11:2814-2821 N '60. (EEAI 10:6)

1. Institut fur Erdolforschung, Brno,
(Colorimetry) (Chromatography) (Iron)
(Gases) (Carbon)